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TABLES,

SHOWING THE

DIFFERENCE OF LONGITUDE IN TIME,

AT THE

MOST IMPORTANT PLACES

BETWEEN THE

ATLANTIC AND PACIFIC OCEANS,

IN THE

BRITISH NORTH AMERICAN DOMINIONS,

AND THE

NORTHERN SECTION OF THE UNITED STATES.

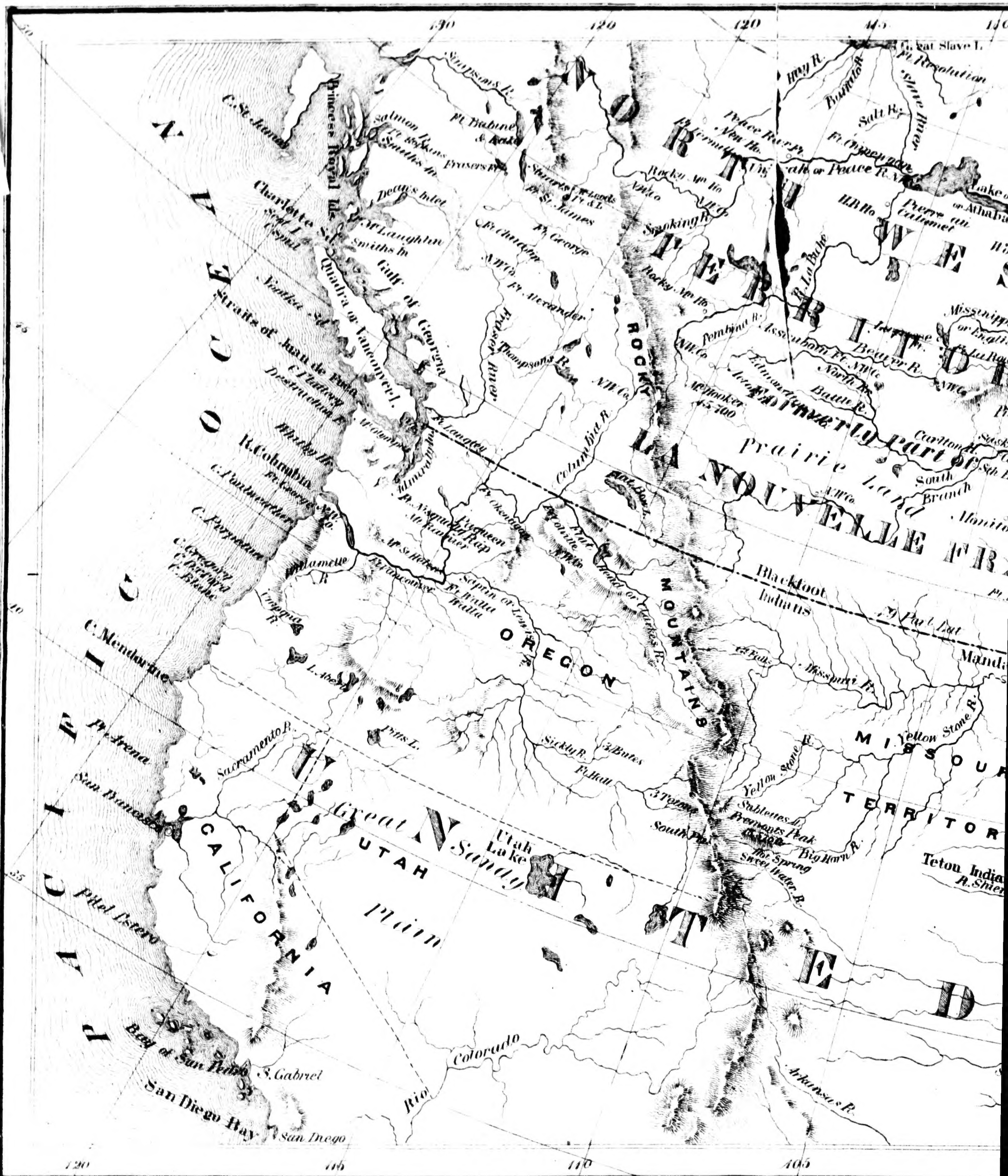
BY JOSEPH BOUCHETTE, ESQ., D.S.G., L.C.

THESE TABLES ARE CAREFULLY COMPUTED FROM THE LONGITUDE IN ARC OF EACH PLACE, DEDUCED FROM ASTRONOMICAL AND TRIGONOMETRICAL DATA, AND GEODETIC DIFFERENCES, COLLATERALLY WITH THE ASTRONOMICAL OBSERVATIONS OF THE AUTHOR IN CANADA.

Entered according to Act of Parliament.

TORONTO.

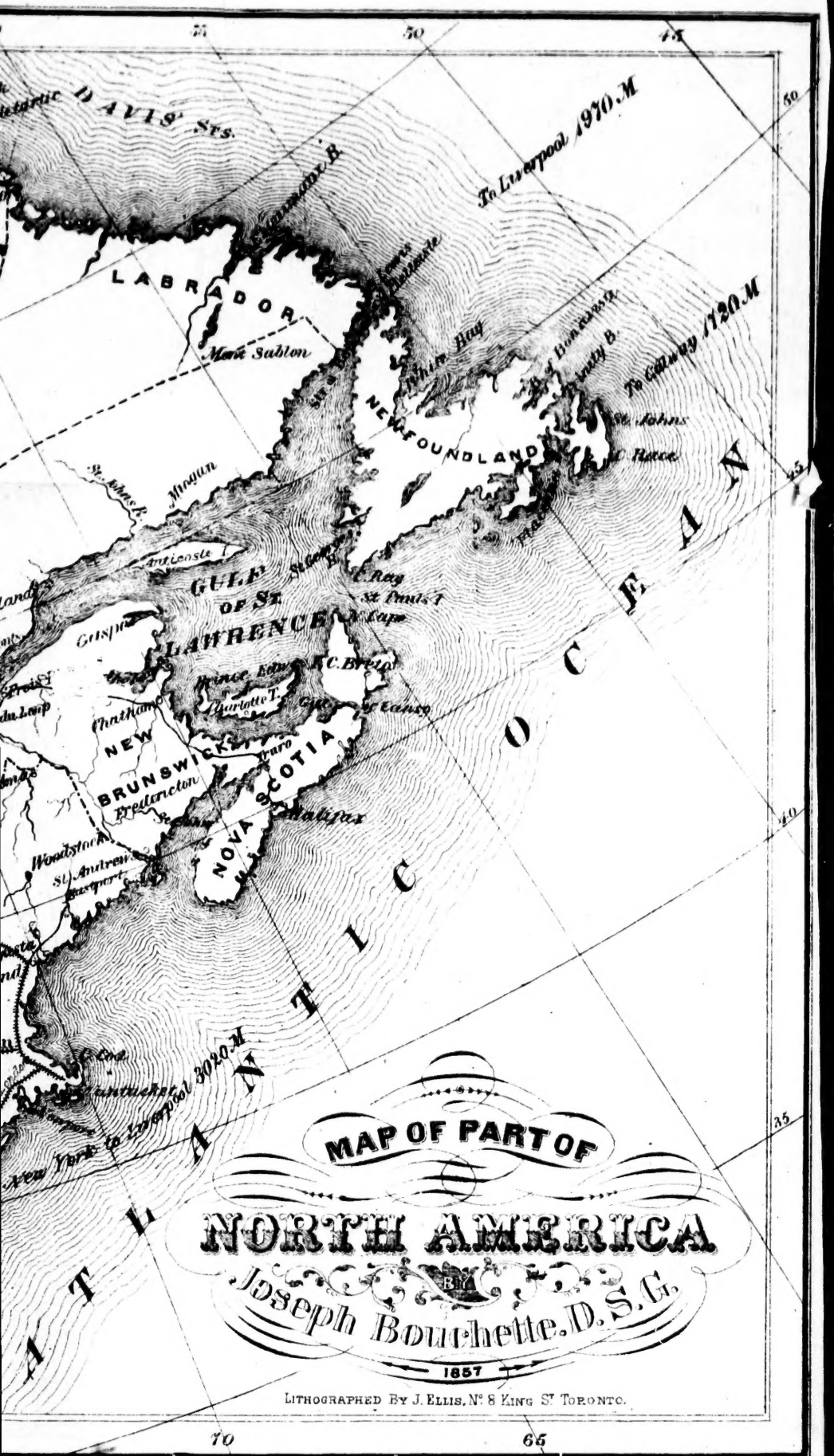
1857.



PACIFIC OCEAN
Great Slave L.
Ft. Resolution
Hay R.
Salt R.
Slave River
Peace River
Ft. Chipewyan
Lake of Athabasca
Ft. St. James
Ft. George
Ft. Alexander
Thompsons R.
Frasers R.
Smiths In.
Deans Inlet
Gulf of Georgia
Princess Royal Isl.
Queen Charlotte Isl.
Quadra or Vancouver I.
Straits of Juan de Fuca
C. Flattery
R. Columbia
C. Disappointment
C. Perpetua
C. Mendocino
Pt. Arena
Sacramento R.
Pitts L.
Willamette
Mt. Rainier
Mt. St. Helens
Ft. Vancouver
Ft. Walla Walla
Columbia R.
Flat Head
Blackfoot Indians
ROCKY MOUNTAINS
OREGON
Sickly R.
3 Butes
Ft. Hall
3 Tetons
South Pass
Fremonts Peak
Sweet Water R.
Big Horn R.
Hot Spring
Yellow Stone R.
Missouri R.
MISSOURI TERRITORY
Teton Indians
Mandan
Carlton H.
South Branch
Prairie Land
formerly part of
LA NOUVELLE FRANCE
Edmonton
Battle R.
North Br.
Beaver R.
Pembina R.
Assiniboin
Mt. Hooker 15,700
Great Sandy Plain
UTAH
Utah Lake
CALIFORNIA
Colorado
Rio
Arkansas R.
S. Gabriel
San Diego
San Diego Bay
Pt. del Estero
UNITED

HUDSONS
BAY
WEST
MISSOURI
TERRITORY
DECOTAH
MINESOTA
IOWA
MICHIGAN
SEVERN
ALBANY
MOOSE
RED RIVER
YORK
RUPER
RIVE
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Winnipeg
James Bay
York Factory
Ft. Churchill
C. Southampton
Moskito Bay
Thompson Isls.
Portland Pt.
Hopewell Chant.
Bakers Dozen
Richmond G.
Belchers
C. Henrietta Maria
C. Lookout
Severn Factory
Oxford Ho.
Norway Ho.
Lake of the Woods
Mandan Inds.
Teton Indians
R. Shienne
Great Bend
Council Bluff
Platte R.
Kansas R.
Solomons Fk.
Jefferson
St. Louis
Alton
Chicago
Indianapolis
Cincinnati
Toledo
Detroit
St. Joseph
Cleveland
Erie
Milwaukee
Madison
Washington
Calumet
Ft. Howard
Prairie du Chien
Du Buque
Falls of St. Anthony
St. Paul
Big Stone L.
Ft. Mandan
Yellow Stone R.
Superior
Falls of St. Mary
Nipissing
Penetanguishene
Toronto
Guelph
Goderich
Hamilton
London
Manitoban
Lake of the Hills or Athabasca L.
Wollaston L.
Deer Lake
Pine Island L.
Cumberland Ho.
Saskatchawan Riv.
Carlton Ho.
Great Slave L.
Ft. Resolution
Peace R.
Ft. Chipewyan
Salt R.
Rankins Inlet
Marble I.
Knights I.
Esquimaux R.
Egg I.
Seal R.
R. Churchill
Hannah Bay H.
Rupert R. & Ho.
Abbitibbee L. & H.
Brunswick Ho.
Moose R. & F.
Red L. Ho.
Grand Ho.
Devils L.
Ft. Alexander or Maurepas
St. Boniface
Brandon Ho.
Ft. Birdstail
Assinaboin R.
Ft. Dauphin
Lit. Lake Winnipeg
Gloucester H.
Lafayette
Grand Haven
Port Sarnia
Ottawa R.

75
70
65
60
55
Digges
Forster H.
Long I.
Mansfield I.
Fulton P.
Kaskiarsiak
Pachack
Nuttletarte
DAVIS Sts
C. Smith
Moskito Bay.
Hope's Advance Bay
Whale R.
C. Grammungtin
Kokseak R.
Portland Pt.
Hopewell Chan.
Mackenzie L.
LABRA
Clear Water L.
Richmond G.
Great Whale R.
L. Apokaunnish
C. Jon's
L. Michegamaw
RUPERT
RIVER
TERRITORY
James Bay
East Main River
Rupert R. & Ho.
L. Mistassini
Hannah Bay H.
Burn
Islands
Gaspe
Mingan
Anticosti
Chatham
NEW
BRUNSWICK
Fredericton
Abbitibbee
L. & H.
Frederic Ho.
L. St. John
Tadousac
Metapedia
Montmorency
Quebec
St. Thomas
Woodstock
St. Andrew
Eastport
Melbourne
Ottawa R.
Gatineau R.
Lievre R.
Montreal
Sherbrooke
Augusta
Nipissing
Ottawa
Ogdensburg
Rouses Pt.
Portland
Preston
Penetanguishene
Stockbridge
Rutland
Springfield
Boston
Saugeen
Toronto
Oswego
Albany
Goderich
Guelph
Hamilton
Niagara
Falls
Buffalo
Rochester
Port Sarnia
London
Dunkirk
Erie
Cleveland
New York
Brooklyn
Long I.
Philadelphia
Delaware
Baltimore
WASHINGTON
Gordonsville
Chesapeake
New York to Liverpool 3020
80
75
70


MAP OF PART OF
NORTH AMERICA
BY
Joseph Bouchette. D.S.G.
1857
LITHOGRAPHED BY J. ELLIS, Nº 8 KING ST TORONTO.
DAVIS Strs.
LABRADOR
Mont Sablon
NEWFOUNDLAND
White Bay
St. Johns
C. Race
To Liverpool 1970 M
To Galway 1720 M
New York to Liverpool 3020 M
GULF OF ST. LAWRENCE
Anticosti
Gaspe
Prince Edward I.
N.C. Breton
Charlottetown
NEW BRUNSWICK
Fredericton
Truro
NOVA SCOTIA
Halifax
Woodstock
St. Andrews
Eastport
Portland
Montreal
Quebec
ATLANTIC OCEAN
70
65
40
35
50
45

Entered according to Act of the Provincial Legislature, in the year One thousand eight hundred and fifty-seven, by JOSEPH BOUCHETTE, *in the Office of the Registrar of the Province of Canada.*

3443

INDEX TO THE TABLES.

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METHOD OF USING THE TABLES.

To Find the Difference of Longitude in Time.

1. The difference of Longitude in Time between any two Places given in the Tables, is found at the intersection of the vertical and horizontal columns, opposite the names of the places.

EXAMPLE.—It is required to know the difference of time between Halifax and Portland. In the column under the first and opposite the latter named place in Table, 1, 2*m.* 40*s* is the difference of time required.

To Find the Longitude of the Place.

Add the difference of Longitude in Time found under the first column and opposite the place named, to the Longitude in Time of the place given at the head of each Table, and the sum will be the Longitude required.

EXAMPLE.—Required, the Longitude of Port Hope,	*h*	*m*	*s*
Difference of Time by Table III	0	18	58
Add Longitude of Montreal in Time	4	54	17
Longitude of Port Hope in Time	5	13	15

To Find the Time of Day.

Having by the Electro-Magnetic Telegraph, Clock Time at any place named in the Tables, the time of day at any other place named in the Tables may be easily found by adding, if the place be east, or substracting if the place be west of that Telegraph Station, the difference of Time found in the Tables.

EXAMPLE.—At Chatham, U.C., suppose you have by Telegraph,

	h	*m*	*s*	
Clock Time at Toronto	11	40	0	A. M.
Difference of Time by Table IV., substract	0	10	55	
Local Time at Chatham	11	29	5	A. M.
Or if at Hamilton you have the Time at Windsor	2	30	30	P. M.
Difference of Time by Table IV., add	0	13	0	
Local Time at Hamilton	2	43	30	P. M.

General Rules.

When it is noon at the head place in either of the Tables, the difference of time found in that column gives the time before noon at any of the other places, or *vice versa*, when it is noon at the the place at foot, the difference of Longitude in time will be the time after the mean noon at the places in the columns to the left.

If any place named in the Tables be assumed as the meridian at noon, mean Solar time, the difference of time given by the Table, between it and any other place damed in the Tables, will be the time after or before noon at any such other place, according as it is situate to the east or west of that meridian.

The Longitude in Arc may be found by converting the time into Arc by the usual Tables, or by the following simple Rule :—

Multiply the Longitude in Arc by 4 and divide by 60, or *vice versa*, multiply the time by 60 and divide by 4.

NOTE.—The difference of Longitude obtained by these Tables is to the nearest 5 seconds of time.

T

N

ITU

52°

3h

d.)

ton

, L

1	1
2	4
3	5
5	2
6	
6	4
8	5
9	1

TABLE

NS, NEWF

ITUDE WEST FROM

52° 42′ 30″ in .

3*h* 30*m* 50*s* in 7

d.)

ton, (Little Fall

, Lt. H.

h *s* 1 15	Trois Pistol		
2 40	*h* *m* *s* 0 1 25	Fra	
3 55	0 3 40	*h* *m* 0	
5 25	0 5 10	0	
6 5	0 5 50	0	
6 45	0 6 30	0	
8 55	0 8 40	0	
9 15	0 9 0	0	

St. Johns, Newfoundland.	Belle Isle, Lt. H.	Blanc Sablon, (Eastern Limit of Canada, Labrador.)	Charlottetown, P. E. I.	Halifax, N. S.	Perce', (Gaspe'.)	St. Johns, N. B.	Fredericton, N.B.	St. Andrews, N. B.	Colebrooke, (Grand	Metis, (Ken	Hea
h m 0 10 40											
0 17 40	h m s 0 7 0										
0 41 50	0 31 10	h m s 0 24 10									
0 43 30	0 32 50	0 25 50	h m s 0 1 40								
0 46 10	0 35 30	0 28 30	0 4 20	h m s 0 2 40							
0 53 25	0 42 45	0 35 45	0 11 35	0 9 55	h m s 0 7 15						
0 55 45	0 45 5	0 38 5	0 13 55	0 12 15	0 9 35	h m s 0 2 20					
0 57 25	0 46 45	0 39 45	0 15 35	0 13 55	0 11 15	0 4 0	h m s 0 1 40				
1 0 20	0 49 40	0 42 40	0 18 30	0 16 50	0 14 10	0 6 55	0 4 35	h m s 0 2 55			
1 1 55	0 51 15	0 44 15	0 20 5	0 18 25	0 15 45	0 8 30	0 6 10	0 4 30	h m s 0 1 35		
1 2 40	0 52 0	0 45 0	0 20 50	0 19 10	0 16 30	0 9 15	0 6 55	0 5 15	0 2 20	h m s 0 0 45	
1 4 45	0 54 5	0 47 5	0 22 55	0 21 15	0 18 35	0 11 20	0 9 0	0 7 20	0 4 25	0 2 50	h m 0 2
1 6 0	0 55 20	0 48 20	0 24 10	0 22 30	0 19 50	0 12 35	0 10 15	0 8 35	0 5 40	0 4 5	0 3
1 7 25	0 56 45	0 49 45	0 25 35	0 23 55	0 21 15	0 14 0	0 11 40	0 10 0	0 7 5	0 5 30	0 4
1 8 40	0 58 0	0 51 0	0 26 50	0 25 10	0 22 30	0 15 15	0 12 55	0 11 15	0 8 20	0 6 45	0 6
1 10 10	0 59 30	0 52 30	0 28 20	0 26 40	0 24 0	0 16 45	0 14 25	0 12 45	0 9 50	0 8 15	0 7
1 10 50	1 0 10	0 53 10	0 29 0	0 27 20	0 24 40	0 17 25	0 15 5	0 13 25	0 10 30	0 8 55	0 8
1 11 30	1 0 50	0 53 50	0 29 40	0 28 0	0 25 20	0 18 5	0 15 45	0 14 5	0 11 10	0 9 35	0 8
1 13 40	1 3 0	0 56 0	0 31 50	0 30 10	0 27 10	0 20 15	0 17 55	0 16 15	0 13 20	0 11 45	0 11
1 14 0	1 3 20	0 56 20	0 32 10	0 30 30	0 27 30	0 20 35	0 18 15	0 16 35	0 13 40	0 12 5	0 11

TABLE I.

ST. JOHNS, NEWFOUNDLAND.

LONGITUDE WEST FROM GREENWICH.

52° 42′ 30″ in Arc.

3*h* 30*m* 50*s* in Time.

.B.																							
ews, N. B.																							
olebrooke, (Grand Falls.)																							
	m *s*																						
1 35	Metis, (Kempt Road.)																						
	h *m* *s*																						
2 20	0 0 45	Headmondston, (Little Falls.)																					
	h *m* *s*																						
4 25	0 2 50	0 2 5	Bic, Lt. H.																				
			h *m* *s*																				
5 40	0 4 5	0 3 20	0 1 15	Trois Pistoles.																			
				h *m* *s*																			
7 5	0 5 30	0 4 45	0 2 40	0 1 25	Fraserville, (Riviere du Loup,) Tadousac.																		
					h *m* *s*																		
8 20	0 6 45	0 6 0	0 3 55	0 3 40	0 1 15	Kamouraska.																	
						h *m* *s*																	
9 50	0 8 15	0 7 30	0 5 25	0 5 10	0 2 45	0 1 30	Portland, Me.																
							h *m* *s*																
10 30	0 8 55	0 8 10	0 6 5	0 5 50	0 3 25	0 2 10	0 0 40	Eboulements.															
								h *m* *s*															
11 10	0 9 35	0 8 50	0 6 45	0 6 30	0 4 5	0 2 50	0 1 20	0 0 40	Montmagny, (St. Thomas.)														
									h *m* *s*														
13 20	0 11 45	0 11 0	0 8 55	0 8 40	0 6 15	0 5 0	0 3 30	0 2 50	0 2 10	Boston.													
										h *m* *s*													
13 40	0 12 5	0 11 20	0 9 15	0 9 0	0 6 35	0 5 20	0 3 50	0 3 10	0 2 30	0 0 20	Quebec.												

QUEBEC.

m. s.	Island Pond, Vt.			
2 30				
	m. s.			
2 50	0 20	SHERBROOKE,		
		m. s.		
3 0	0 30	0 10	Brompton	
			m. s.	
3 45	1 15	0 55	0 45	Me
				m.
4 25	1 55	1 35	1 25	0 4
5 40	3 10	2 50	2 40	1 5
7 0	4 30	4 10	4 0	3
7 30	5 0	4 40	4 30	3
8 0	5 30	5 10	5 0	4
8 15	5 45	5 25	5 15	4
8 45	6 15	5 55	5 45	5
8 57	6 27	6 7	5 57	5
9 27	6 55	6 37	6 27	5

TABLE II.

QUEBEC CITADEL.

LONGITUDE WEST OF GREENWICH.

71° 12′ 30″ in Arc.

4*h* 44*m* 50*s* in Time.

.

sland Pond, Vt.										
20 s.	SHERBROOKE, Portneuf.									
30	0 m. 10 s.	Brompton Falls, Metabetchouan, (Lake St. John.)								
15	0 55	0 m. 45 s.	Melbourne, Stanstead, St. Casimir.							
55	1 35	1 25	0 m. 40 s.	THREE RIVERS.						
10	2 50	2 40	1 55	1 m. 15 s.	Sutton, Springfield, Mass.					
30	4 10	4 0	3 15	2 35	1 m. 20 s.	St. Hyacinthe, Stanbridge E.				
0	4 40	4 30	3 45	3 5	1 50	0 m. 30 s.	Maskinonge', Philipsburg.			
30	5 10	5 0	4 15	3 35	2 20	1 0	0 m. 30 s.	Berthier, Sorel, St. Hilaire, Rutland, Vt.		
45	5 25	5 15	4 30	3 50	2 53	1 15	1 0	0 m. 15 s.	St. Johns, Burlington, Vt.	
15	5 55	5 45	5 0	4 20	3 5	1 45	1 15	0 45	0 m. 30 s.	St. Bruno, Rouse's Point.
27	6 7	5 57	5 12	4 32	3 17	1 57	1 27	0 57	0 42	0 m. 12 s. L'Assomption, Industry.
55	6 37	6 27	5 42	5 2	3 47	2 27	1 57	1 27	1 12	0 42	0 m. 30 s. MONTREAL.

L|2 0012 20|1 40|0 10| AMHERSTBURG.

TABLE

MONTREAL (C'A

LONGITUDE WEST FROM (

73° 34′ 15″ in A

4h 54m 17s in T

MONTREAL.																
0m 33s	Terrebonne, ALBANY, N. Y.															
1 28	0m 55s	St. Eustache.														
1 43	1 10	0m 15s	NEW YORK.													
2 28	1 55	1 0	0m 45s	Coteau du Lac, Huntingdon.												
4 13	3 40	2 45	2 30	1m 45s	Grenville, St. Regis.											
4 38	4 5	3 10	2 55	2 10	0m 25s	Cornwall, L' gnal.										
6 15	5 42	4 47	4 32	3 47	2 2	1m 37s	PHILADELPHIA.									
7 48	7 15	6 20	6 5	5 20	3 35	3 10	1m 33s	Prescott, Ogdensburg.								
8 33	8 0	7 5	6 50	6 5	4 20	3 55	2 18	0m 45s	Brockville.							
8 38	8 5	7 10	6 55	6 10	4 25	4 0	2 23	0 50	0m 5s	OTTAWA City.						
9 38	9 5	8 10	7 55	7 10	5 25	5 0	3 23	1 50	1 5	1m 0s	Aylmer, Merricksville, Mallory					
10 28	9 55	9 0	8 45	8 0	6 15	5 50	4 13	2 40	1 55	1 50	0m 50s	Gananoque, Sackets Har				
10 48	10 15	9 20	9 5	8 20	6 35	6 10	4 33	3 0	2 15	2 10	1 10	0m 20s	Perth.			
11 8	10 35	9 40	9 25	9 40	6 55	6 30	4 53	3 20	2 35	2 30	1 30	0 40	0m 20s	Arnprior,		
11 48	11 15	10 20	10 5	9 20	7 35	7 10	5 33	4 0	3 15	3 10	2 10	1 20	1 0	0m 40s	Kin	
12 58	12 25	11 30	11 15	10 30	8 45	8 20	6 43	5 10	4 25	4 20	3 20	2 30	2 10	1 50	1m	
13 18	12 45	11 50	11 35	10 50	9 5	8 40	7 3	5 30	4 45	4 40	3 40	2 50	2 30	2 10	1	
14 23	14 50	12 55	12 40	11 55	10 10	9 45	8 8	6 35	5 50	5 45	4 45	3 55	3 35	3 15	2	
15 33	15 0	14 5	13 50	13 5	11 20	10 55	9 18	7 45	7 0	6 55	5 55	5 55	4 45	4 25	3	
17 28	16 55	16 0	15 45	15 0	13 15	12 50	11 13	9 40	8 55	8 50	7 50	7 0	6 40	6 20	5	
18 58	18 25	17 30	17 15	16 30	14 45	14 20	12 43	11 10	10 25	10 20	9 20	8 30	8 10	7 50	7	
20 43	20 10	19 15	19 0	18 15	16 30	16 5	14 28	12 55	12 10	12 5	11 5	10 15	9 55	9 35	8	
21 18	20 45	19 50	19 35	18 50	17 5	16 40	15 3	13 30	12 45	12 40	11 40	10 50	10 30	10 10	9	
21 28	20 55	20 0	19 45	19 0	17 15	16 50	15 13	13 40	12 55	12 50	11 50	11 0	10 40	10 20	9	
21 58	21 25	20 30	20 15	19 30	17 45	17 20	15 43	14 10	13 25	13 20	12 20	11 30	11 10	10 50	10	
22 43	22 10	21 15	21 0	20 15	18 30	17 55	16 18	14 55	14 10	14 5	13 5	12 15	11 55	11 35	10	
23 13	22 40	21 45	21 30	20 45	19 0	18 25	16 48	15 25	14 40	14 35	13 35	12 45	12 25	12 5	11	

TABLE III.

ONTREAL (CATHEDRAL.)

LONGITUDE WEST FROM GREENWICH.

73° 34′ 15″ in Arc.
4*h* 54*m* 17*s* in Time.

Merricksville, Mallory.																	
nanoque, Sackets Harbour.																	
20	Perth.																
40	0 20	Arnprior, Cape Vincent, Newboro,															
20	1 0	0 40	KINGSTON, Oswego, N. Y.														
30	2 10	1 50	1 10	WASHINGTON, VA.													
50	2 30	2 10	1 30	0 20	Pembroke.												
55	3 35	3 15	2 35	1 25	1 5	Belleville.											
55	4 45	4 25	3 45	2 35	2 15	1 10	Brighton, Rochester, N. Y.										
0	6 40	6 20	5 40	4 30	4 10	3 5	1 55	Cobourg.									
30	8 10	7 50	7 10	6 0	5 40	4 35	3 25	1 30	Port Hope, Peterborough.								
15	9 55	9 35	8 55	7 45	7 35	6 20	5 10	3 15	1 45	Bowmanville, Mattawan Forks (Ottawa.)							
50	10 30	10 10	9 30	8 20	8 0	6 55	5 45	3 50	2 20	0 35	BUFFALO, N. Y.						
0	10 40	10 20	9 40	8 30	8 10	7 5	5 55	4 0	2 30	0 45	0 10	Whitby, Fort Erie.					
30	11 10	10 50	10 10	9 0	9 40	7 35	6 25	4 30	3 0	1 15	0 40	0 30	Suspension Bridge, (Niagara.)				
15	11 55	11 35	10 55	9 45	9 25	8 20	7 10	5 15	3 45	2 0	1 25	1 15	0 45	Port Colborne, Port Dalhousie.			
45	12 25	12 5	11 25	10 15	9 55	8 50	8 40	5 45	4 15	2 30	1 55	1 45	0 15	0 30	TORONTO.		

t. Thomas.

Saugeen.

laide, Clea

le, Bosanq

ewsbury, I

s			
5	CHATHA		
0	m 1	s 25	Po
0	1	55	m 0
0	2	35	1
0	4	5	2
0	4	15	2

t. Thomas.

Saugeen.

laide, Clearville, Cleveland, (Ohio.)

le, Bosanquet.

ewsbury, Rondeau, Port Franks.

s 5					CHATHAM, Erieus, Errol.
0	m 1 s 25				PORT SARNIA, Romney, Wallaceburg.
0	1 55	m 0 s 30			Mercea, Tecumseh.
0	2 35	1 10	m 0 s 40		Belle River, Sandusky, (Ohio.)
0	4 5	2 40	2 10	m 1 s 30	Windsor, DETROIT, (Mich.)
0	4 15	2 50	2 20	1 40	m 0 s 10 AMHERSTBURG.

TAB

TORONTO, (Y

LONGITUDE WEST

79° 22′ 30

5*h* 17*m* 30

Toronto.												
m *s*												
0 55	Port Credit, Grimsby, Dunnville.											
	m *s*											
2 0	1 5	Hamilton, Cayuga.										
		m *s*										
2 30	1 35	0 30	Penetanguishene.									
			m *s*									
2 50	1 55	0 50	0 20	Erie, Pa.								
				m *s*								
3 25	2 30	1 25	0 55	0 35	Port Dover.							
					m *s*							
3 35	2 40	1 35	1 5	0 45	0 10	Brantford, Guelph, Collingwood.						
						m *s*						
3 45	2 50	1 45	1 15	0 55	0 20	0 10	Simcoe.					
							m *s*					
4 10	3 15	2 10	1 40	1 10	0 45	0 35	0 25	Paris, Fergus.				
								m *s*				
4 40	3 45	2 40	2 10	1 40	1 15	1 5	0 55	0 30	Princeton, No			
									m *s*			
5 40	4 45	3 40	3 10	2 50	2 15	2 5	1 55	1 30	1 0	Woodst		
										m *s*		
6 30	5 35	4 30	4 0	3 40	3 5	2 55	2 45	2 20	1 50	0 50	S	
											m	
7 35	6 40	5 35	5 5	4 45	4 10	4 0	3 50	3 25	2 55	1 55	1	
8 5	7 10	6 5	5 35	5 15	4 40	4 30	4 20	3 55	3 25	2 25	1	
9 30	8 35	7 30	7 0	6 40	6 5	5 55	5 45	5 20	4 50	3 50	3	
9 45	8 50	7 45	7 15	6 55	6 20	6 10	6 0	5 35	5 5	4 5	3	
10 30	9 35	8 30	8 0	7 40	7 5	6 55	6 45	6 20	5 50	4 50	4	
10 55	10 0	8 55	8 25	8 5	7 30	7 20	7 10	6 45	6 15	5 15	4	
12 20	11 25	10 20	9 50	9 30	8 55	8 45	8 35	8 10	7 40	6 40	5	
12 50	11 55	10 50	10 20	10 0	9 25	9 15	9 5	8 40	8 10	7 10	6	
13 30	12 35	11 30	11 0	10 40	10 5	9 55	9 45	9 20	8 50	7 50	7	
15 0	14 5	13 0	12 30	12 10	11 35	11 25	11 15	10 50	10 20	8 20	8	
15 10	14 15	13 10	12 40	12 20	11 45	11 35	11 25	11 0	10 30	9 30	8	

TABLE IV.

TORONTO, (Yonge Street Wharf.)

LONGITUDE WEST FROM GREENWICH.

79° 22′ 30″ in Arc.

5h 17*m* 30*s* in Time.

ph, Collingwood.

ris, Fergus.

30 (s)	Princeton, Norwich, Arthur.													
30	1 (m) 0 (s)	Woodstock.												
2 20	1 50	0 (m) 50 (s)	Stratford.											
3 25	2 55	1 55	1 (m) 5 (s)	London, Port Stanley, St. Thomas.										
3 55	3 25	2 25	1 35	0 (m) 30 (s)	Lobo, Port Talbot, Saugeen.									
5 20	4 50	3 50	3 0	1 55	1 (m) 25 (s)	Goderich, Adelaide, Clearville, Cleveland, (Ohio.)								
5 35	5 5	4 5	3 15	2 10	1 40	0 (m) 15 (s)	Wardsville, Bosanquet.							
6 20	5 50	4 50	4 0	2 55	2 25	1 0	0 (m) 45 (s)	Shrewsbury, Rondeau, Port Franks.						
6 45	6 15	5 15	4 25	3 20	2 50	1 25	1 10	0 (m) 25 (s)	Chatham, Erieus, Errol.					
8 10	7 40	6 40	5 50	4 45	4 15	2 50	2 35	1 50	1 (m) 25 (s)	Port Sarnia, Romney, Wallaceburg.				
8 40	8 10	7 10	6 20	5 15	4 45	3 20	3 5	2 20	1 55	0 (m) 30 (s)	Mercea, Tecumseh.			
9 20	8 50	7 50	7 0	5 55	5 25	4 0	3 45	3 0	2 35	1 10	0 (m) 40 (s)	Belle River, Sandusky, (Ohio.)		
50	10 20	8 20	8 30	7 25	6 55	5 30	5 15	4 30	4 5	2 40	2 10	1 (m) 30 (s)	Windsor, Detroit, (Mich.)	
1 0	10 30	9 30	8 40	7 35	7 5	5 40	5 25	4 40	4 15	2 50	2 20	1 40	0 (m) 10 (s)	Amherstburg.

perieur,

s.

St. Boniface, (Re

h m s 0 56 0	Rocky M	
1 41 40	h m s 0 45 40	S
1 48 40	0 52 40	h 0
2 6 0	1 10 0	0

perieur,

s.

St. Boniface, (Red River.)				
h m s 0 56 0	Rocky Mountains, 49° Parallel.			
1 41 40	h m s 0 45 40	San Francisco, (California.)		
1 48 40	0 52 40	h m s 0 7 0	Fort George, (Oregon.)	
2 6 0	1 10 0	0 24 20	h m s 0 17 20	VANCOUVERS, N. N. W. Ext'y.

TABL

DETROIT

LONGITUDE WEST FR

83° 7′ 30″ i

5*h* 32*m* 30*s*

Detroit.												
h m s 0 1 35	Toledo, (Ohio.)											
0 3 10	*h m s* 0 1 35	Dexter, Mich.										
0 4 50	0 3 15	*h m s* 0 1 40	Cincinnati.									
0 5 30	0 3 55	0 2 20	*h m s* 0 0 40	Sault Ste. Marie, Fort Brady, Jackson, (Michigan.								
0 10 10	0 8 35	0 7 0	0 5 20	*h m s* 0 4 40	Kalamazoo, Mich.							
0 12 50	0 11 15	0 9 40	0 8 0	0 7 20	*h m s* 0 2 40	Grand Haven.						
0 18 50	0 17 15	0 15 49	0 14 0	0 13 20	0 8 40	*h m s* 0 6 0	Chicago.					
0 19 50	0 18 15	0 16 40	0 15 0	0 14 20	0 9 40	0 7 0	*h m s* 0 1 0	Milwaukie.				
0 25 24	0 23 49	0 22 14	0 24 34	0 19 54	0 15 14	0 12 34	0 6 34	*h m s* 0 5 34	Fort Willi			
0 29 30	0 27 55	0 27 20	0 24 40	0 24 0	0 19 20	0 16 40	0 10 40	0 9 40	*h m s* 0 4 6	St		
0 36 42	0 35 7	0 33 32	0 31 52	0 31 12	0 26 32	0 23 52	0 17 52	0 16 52	0 11 18	*h* 0		
0 39 30	0 37 55	0 36 20	0 34 40	0 34 0	0 29 20	0 26 40	0 20 40	0 19 40	0 14 6	0 1		
0 55 30	0 53 55	0 52 20	0 50 40	0 50 0	0 45 20	0 42 40	0 36 40	0 35 40	0 30 6	0 2		
1 51 30	1 49 55	1 48 20	1 46 40	1 46 0	1 41 20	1 38 40	1 32 40	1 31 40	1 26 6	1 2		
2 37 10	2 35 35	2 34 0	2 32 20	2 31 40	2 27 0	2 24 20	2 18 20	2 17 20	2 11 46	2		
2 44 10	2 42 35	2 41 0	2 39 20	2 38 40	2 34 0	2 31 20	2 25 20	2 24 20	2 18 46	2 1		
3 1 30	2 59 55	2 58 20	2 56 04	2 56 0	2 51 20	2 48 40	2 42 40	2 41 40	2 36 6	2 3		

TABLE V.

DETROIT, (Centre.)

LONGITUDE WEST FROM GREENWICH.

83° 7′ 30″ in Arc.

5*h* 32*m* 30*s* in Time.

ackson, (Michigan.)

o.

Milwaukie.

h m s 0 5 34	Fort William, (L. Superior.)								
0 9 40	h m s 0 4 6	St. Louis.							
0 16 52	0 11 18	h m s 0 7 12	Fond du Lac Superieur.						
0 19 40	0 14 6	0 10 0	h m s 0 2 48	St. Pauls.					
0 35 40	0 30 6	0 26 0	0 18 48	h m s 0 16 0	St. Boniface, (Red River.)				
1 31 40	1 26 6	1 22 0	1 14 48	1 12 0	h m s 0 56 0	Rocky Mountains, 49° Parallel.			
2 17 20	2 11 46	2 7 40	2 0 28	1 57 40	1 41 40	h m s 0 45 40	San Francisco, (California.)		
2 24 20	2 18 46	2 14 40	2 7 28	2 4 40	1 48 40	0 52 40	h m s 0 7 0	Fort George, (Oregon.)	
2 41 40	2 36 6	2 32 0	2 24 48	2 22 0	2 6 0	1 10 0	0 24 20	h m s 0 17 20	Vancouvers, N. N. W. Ext'y.

M

C
4
0

2

2

, Mich.

Chicago.			
h m s 0 36 40	St. Boniface, (Red River.)		
2 19 20	h m s 1 42 40	Pacific 49th Parallel.	
2 42 40	2 6 0	h m s 0 23 20	VANCOUVER'S I. (N.W. Ext'y.)

TABLE

LONDON, (GREENW

0 0 0

0 0 0

LONDON, (Greenwich Observatory.)	St. John's (Newfoundland.)	HALIFAX, N. S.	St. Johns, N. B.	Portland, Me.	Boston, Mass.	QUEBEC.	MONTREAL.	New York.	Kingston.	WASHIN
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
3 30 50	0 43 30	0 9 55	0 16 45	0 3 30	0 0 20	0 9 27	0 1 43	0 10 5	0 2 10	0 6 45
4 14 20	0 53 25	0 26 40	0 20 15	0 13 17	0 9 47	0 11 10	0 11 48	0 12 15	0 8 55	0 9 15
4 24 15	1 10 10	0 30 10	0 30 10	0 15 0	0 11 30	0 21 35	0 13 58	0 19 0	0 11 25	0 24 15
4 41 0	1 13 40	0 30 30	0 20 55	0 25 5	0 21 35	0 21 15	0 20 43	0 21 30	0 26 25	0 48 5
4 44 30	1 14 0	0 39 57	0 30 2	0 27 15	0 23 45	0 23 25	0 23 13	0 36 30	0 45 15	1 19 45
4 44 50	1 23 27	0 41 40	0 31 45	0 34 0	0 30 30	0 30 10	0 28 40	0 55 20	1 21 55	3 2 25
4 54 17	1 25 10	0 51 45	0 41 50	0 36 30	0 33 0	0 32 40	0 38 13	1 32 0	3 4 35	5 25 45
4 56 0	1 35 15	0 53 55	0 44 0	0 51 30	0 48 0	0 47 40	0 57 3	1 43 30	3 16 23	
5 6 5	1 37 25	1 0 40	0 50 45	1 10 20	1 6 50	1 6 30	1 33 43	1 48 10	3 25 50	
5 8 15	1 44 10	1 3 10	0 53 15	1 47 0	1 43 30	1 43 10	2 20 30	3 7 10	3 39 53	
5 15 0	1 46 40	1 18 10	1 8 15	2 13 40	2 3 45	3 29 40	3 46 25	4 39 50	4 19 40	
5 17 30	2 1 40	1 37 0	1 27 5	3 56 20	3 49 30	3 53 0	4 9 45	5 3 10	5 25 45	
5 32 30	2 20 30	2 13 40	2 3 45	4 19 40	4 9 45					
5 51 20	3 7 10	3 56 20	3 46 25	5 3 10						
6 28 0	4 39 50	4 19 40	4 9 45							
8 10 40	5 3 10									
8 34 0										

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TABLE VI.

NDON, (Greenwich Observatory.)

0 0 0

0 0 0

York.							
s 5	Kingston.						
15	h m s 0 2 10	Washington, Va.					
0	0 8 55	h m s 0 6 45	Buffalo, N. Y.				
30	0 11 25	0 9 15	h m s 0 2 30	Toronto.			
30	0 26 25	0 24 15	0 17 30	h m s 0 15 0	Detroit, Mich.		
20	0 45 15	0 43 5	0 36 20	0 33 50	h m s 0 18 50	Chicago.	
0	1 21 55	1 19 45	1 13 0	1 10 30	0 55 30	h m s 0 36 40	St. Boniface, (Red River.)
40	3 4 35	3 2 25	2 55 40	2 53 10	2 38 10	2 19 20	h m s 1 42 40 Pacific 49th Parallel.
10	3 27 55	5 25 45	3 19 0	3 16 30	3 1 30	2 42 40	2 6 0 h m s 0 23 20 Vancouver's I. (N.W. Ext'y.)

n's City Steam Press, 63 Yonge Street, Toronto.